

# APCO 2018 EVENT COVERAGE

## contents

**03** Newcomers to U.S. 911 space cite advantages of cloud use for PSAPs

---

**04** AT&T announces Emergency Drop Kit to provide FirstNet users with connectivity wherever they go

---

**06** Sonim Technologies says SLED accessory on LTE smartphone will support direct mode, P25 trunking, ad-hoc gateway

---

**07** Other stories / Product Announcement Videos

---

**10** FirstNet to begin agency-level engagement program with public safety

---

**11** Verizon calls for greater interoperability with FirstNet, says public-sector business still growing

---

# Newcomers to U.S. 911 space cite advantages of cloud use for PSAPs

Donny Jackson | *Urgent Communications*, August 7, 2018

“I would argue that there are two kinds of PSAPs in the U.S.: Those that are in the cloud, and those that are going to be in the cloud,” RapidDeploy CEO Steve Raucher said during the Sunday session. “It’s not [a question of] ‘if,’ it’s ‘when.’”

**LAS VEGAS**—Cloud-based approaches to call-handling and computer-aided dispatch (CAD) can provide public-safety answering points (PSAPs) with immediate functionality benefits today and an affordable path to make a smooth transition to an IP-based next-generation 911 infrastructure, leaders of two companies that are relatively new to the U.S. market said during a session at APCO 2018.

“The cloud is the great enabler for next-generation 911. It has the following native benefits: high availability, geo-diverse resilience, best-of-breed cybersecurity, hyper scalability and redundancy, and affordability, with zero upfront capital investment.”

Eyal Elyashiv, COO for Carbyne, echoed this sentiment, noting that the cloud is “where all the heavy lifting is being done” in the company’s call-handling solution, which lets a call center receive highly accurate location information from callers, conduct two-way text conversations with the caller, and stream video from the caller’s cell phone, if desired.

While these capabilities typically have been associated with next-generation 911, PSAPs can implement this functionality today with Carbyne’s c-Lite offering, Elyashiv said. “This is basically a tool that can turn any PSAP with a legacy system into a next-generation-enabled PSAP,” Elyashiv said. “Why do we call it Lite? Because it requires no integration. It does not affect the operation flow of the PSAP, and—pretty fast—you can introduce next-generation capabilities to your PSAP.

“Again, this does not change the

way your PSAP operates today. It just introduces complementary features to your existing call-handling platform.”

When a PSAP makes the transition to an IP-based NG911 platform, the Carbyne solution will perform even better, Elyashiv said.

“ESInet, for us, is like water—we want an ESInet,” he said. “We will maximize our capabilities using ESInet. We’re an IP-based solution, so our data transports over an IP in a most-efficient way.

“Today, in order to handle calls, we need to dumb down our system, because we still need to connect to CAMA trunk that come into some PSAPs. With ESInet, we’ll be able to route based on IP, based on the device location, to the right PSAP.”

RapidDeploy provides a cloud-based CAD solution that utilizes the Microsoft Azure Government Cloud to deliver greater situational awareness to PSAPs by leveraging information from existing resources, Raucher said.

“We are not here to reinvent the wheel,” Raucher said. “We do not set your to build new technology where there is an established solution we can integrate with. There is no point in us spending time trying to build a [satellite-based navigation] app when we can integrate with Apple Maps and Waze.

“This allows us to build our platform using the best solution from every sphere, be it mapping, weather, traffic, CCTV and artificial intelligence.”

This cloud-based approach allows CAD installation to be quicker than a traditional approach—without the

need for large capital expenditures—and can enable a smooth transition for the PSAP, Raucher said.

“We can stand up our solution side-by-side with your existing solution, so they can actually operate in real time and compare the work flows and see the benefit,” he said.

“Again, that’s the power of the cloud. We’re not wheeling in 15 racks of servers to do that.”



Steve Raucher, RapidDeploy CEO

Raucher said RapidDeploy—which announced an agreement with AT&T yesterday—has been focusing more on the U.S. after attending last year’s NENA event and determining that existing CAD systems use technology that is “at least 10 years old. Current CAD vendors do not innovate, because current solutions are “super sticky,” he said.

“As you guys know, your [911] procurement cycles are very long, it’s incredibly hard to change—from a financial point of view, a purchase-cycle point of view, and the capacity of change, with all of the moving parts,” he said. “Obviously, the vendor community is aware of that, and they’ve paid you back by spending more money on their booths in the conference hall than they have in R&D.

“Shame on them. We’re here to stay, and we’re going to eat their lunch.”

# AT&T announces Emergency Drop Kit to provide FirstNet users with connectivity wherever they go

Donny Jackson | *Urgent Communications*, August 7, 2018

No network provides coverage in all locations, but the Emergency Drop Kit announced yesterday by AT&T soon will let FirstNet users take network connectivity with them virtually anywhere, providing a 300-foot-radius Wi-Fi “bubble” supported by backhaul that can switch seamlessly between satellite and LTE connections.

Packaged in a carrying case, the 25-pound Emergency Drop Kit includes four Sonim XP8 devices, a Cradlepoint router that provides the Wi-Fi bubble—and an LTE link to the FirstNet system, if available—and an Inmarsat satellite link for backhaul when the FirstNet LTE system is not available. The package includes enough battery to support 12 hours of communications with these devices without a charge.

AT&T and other wireless carriers traditionally have supported first responders with deployable cell-on-wheels (CoW) or cell-on-light-truck (CoLT) solutions, but those can take hours or days to set up, and they often cannot reach locations in difficult environments. The Emergency Drop Kit is an ideal solution for the first units arriving at a scene where communications infrastructure has been decimated, such as in the aftermath of a hurricane or wildfire, according to Chris Sambar, senior vice president for AT&T-FirstNet.

“When a natural or man-made disaster happens, for the first people that show up, there’s usually no way for them to communicate with anybody else,” Sambar said during an interview with *IWCE’s Urgent Communications*.

“That’s the challenge: Somebody shows up, they see what’s wrong, they triage, and then they need to tell somebody what going on and what they need, but they can’t do it—they’ve got to drive somewhere they can get a connection and tell people. This allows them to bring a connection with them, so they and a handful of other people can call in the cavalry right away.”



Fred Scalera, director of public-safety strategy and policy for AT&T-FirstNet

Fred Scalera, director of public-safety strategy and policy for AT&T-FirstNet, noted that the Emergency Drop Kit is designed to be deployed quickly by a first responder, without the need for an engineering background.

“Any public-safety person, in minutes, can drop this kit, set it up and be live [with communications], with no special knowledge,” Scalera said during an interview with *IWCE’s Urgent Communications*. “It’s a very basic, easy-to-operate, easy-to-deploy, for-an-emergency system.”

While the Emergency Drop Kit includes a satellite-backhaul option, the Cradlepoint router will link with a FirstNet LTE site, if available, according to Ryan Fields-Speck, AT&T’s director of public-safety strategy and policy.

“The uniqueness of this device is that it’s satellite-enabled,” Fields-Speck said during an interview with *IWCE’s Urgent Communications*. “So, when the network is totally out—from a hurricane, wildfire, etc.—this will work, no matter what.

“As soon as our CoLT pulls up and we have higher bandwidth available, it will immediately and automatically switch over to the LTE network, and we can continue that service and provide it with the Cradlepoint modem that’s in there.”

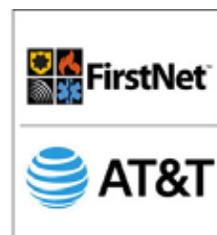
Until LTE connectivity is available, the initial first responders can deploy multiple Emergency Drop Kits in a daisy-chain configuration to expand the Wi-Fi communications between each other at an incident scene. In addition to being used in

remote locations or disaster areas, this functional can be leveraged to establish coverage inside buildings or in other challenging situations, Scalera said.

AT&T is working to develop other solutions and capabilities that take advantage of the four power-over-Ethernet ports in the Emergency Drop Kit, including the potential integration of technologies that would extend the range of the communications “bubble,” according to Scalera.

“It all builds off of this [the Emergency Drop Kit],” he said. “You’ll be able to do additions to it as we go forward.”

Sambar, Scalera and Fields-Speck all noted that the Emergency Drop Kit—something that is not a requirement under the FirstNet-AT&T contract—was developed after AT&T received input from first responders about their communications needs in the field.



“[Sonim, Cradlepoint and Inmarsat] are trusted, verified and vetted on their own,” Fields-Speck said. “We’re taking them and packaging them up into a verifiable product that people can use.”

“This is innovation at a new level that is only coming out of the FirstNet realm, because we’re listening to public safety—what they want, what they need. This is just the beginning of the cool stuff that’s going to come out of the shop of FirstNet, and we’re working on that every day.”

AT&T expects to have the Emergency Drop Kit commercially available by the end of the year, Fields-Speck said.

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# Sonim Technologies says SLED accessory on LTE smartphone will support direct mode, P25 trunking, ad-hoc gateway

Donny Jackson | *Urgent Communications*, August 9, 2018

LAS VEGAS—Sonim Technologies' P25 accessory to its XP8 rugged smartphone will support full P25 conventional trunking and ad-hoc interoperability gateway functionality, in addition to providing high-powered, direct-mode communications, a company official said yesterday during an APCO 2018 session.

Known as the Sonim LMR Enabled Detachable (SLED), the accessory was demonstrated to provide direct-mode voice communications during the IWCE 2018 event in March, according to Bob Escalle, senior director of public-safety and defense markets for Sonim Technologies. Now, a revised version of the SLED includes other features requested by public-safety officials, he said.

"We're also supporting a full P25 conventional trunking SLED that attaches to our device, as well," Escalle said during the APCO 2018 session. "The idea is that you can actually bring a very cost-effective, fully CAP-approved P25 handheld with a smartphone device.

"Some people talk about moving from an LMR radio and putting broadband applications on the LMR radio. We're kind of going in the opposite direction by putting P25 accessory onto our device. If you need it, you can use it; if not, then you have a smartphone with a mission-critical PTT application on there via broadband."

In addition, Sonim Technologies has established a gateway functionality on the device, leveraging the ability for a SLED-accessoried Sonim XP8 smartphone to communicate with both FirstNet and P25 networks, Escalle said.

"The other nice thing is that ... your smartphone now becomes a quick, ad-hoc IP gateway— narrowband in [and] broadband out, or broadband in [and] narrowband out," he said. "So, you can imagine going into gateway mode, and this becomes your quick, ad-hoc gateway product for those who either don't have broadband devices at a scene that may get [access to broadband users]."

During an interview with *IWCE's Urgent Communications*, Escalle said the SLED gateway will have the same functional capabilities as dedicated gateways, with some expected limitations.

"The idea is not to replace those dedicated gateways," Escalle said during the interview. "Some of those gateways have advanced features that we'll never support. But, for just a quick-and-dirty [interoperability solution], I can go to gateway mode, and I can support people who don't have a broadband device—or broadband guys who don't have a narrowband device—and now I can talk between them, just by setting up this simple gateway.

"As long as it's receiving a transmission from a P25 talk group or a conventional channel, it will take it and rebroadcast it across the LTE channel. It will only handle one talk group at a time, but that's all a P25 handheld will handle. It will go in and out, both directions. [And] You are limited by the battery power of the unit, unlike a gateway that might be plugged into the wall or a 12-volt battery. You're going to be limited by the [battery] capacity of your XP8."

Of course the Sonim XP8-SLED package is still designed to provide direct-mode voice that is comparable to LMR radios, thanks to the 5-watt power level available in the VHF version of the accessory and the 4-watt power level available in the UHF and 700/800 MHz versions of the SLED, Escalle said during the APCO session.

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*“As long as it's receiving a transmission from a P25 talk group or a conventional channel, it will take it and rebroadcast it across the LTE channel.”*

*Bob Escalle, senior director of public-safety and defense markets for Sonim Technologies*

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With this in mind, Sonim Technologies plans to increase the battery power included with the SLED “by about 200 milliamp hours,” Escalle said during the APCO session.

“We’re going to have a bigger battery as an option, if you’re going to use the accessories,” Escalle said during the session.

This enhanced battery and the addition of a full-feature P25 board to support full conventional trunking will result in the overall Sonim XP8-SLED package almost doubling in thickness compared to prototypes shown to date, he said.

Even with the SLED enhancements going beyond providing direct-mode P25 connectivity, Sonim plans to price the XP8-SLED package for less than \$1,000 according to Escalle.

“That is the objective,” Escalle said. “If we do that, we think we have a heck of a deal going.”

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- > Motorola Solutions unveils two new hazloc P25 radios, LEX 11 receives 'FirstNet Ready' designation
- > Motorola Solutions unveils Critical Connect interop service to link ASTRO 25, PoC communications
- > FCC issues citation and order against dealer of non-compliant Chinese radios
- > Hytera Communications files objection to proposed ITC relief sought by Motorola Solutions

## Product Announcement Videos



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**Anritsu:** Jeremy Davis highlights techniques for measuring RF coverage inside buildings



**Televate:** Joe Ross highlights features of Pinpoint app to verify carriers' coverage, performance



**Motorola Solutions:** Jennifer Mitchell highlights upcoming location-on-receive capability on ASTRO 25 systems



**Hytera:** Steve Cragg describes use cases for new E-pack portable DMR repeater



**Motorola Solutions:** Doug Bartman explains interoperability features of Critical Connect offering



**VNC:** Keith Kaczmarek showcases IOPS-compliant Band 14 LTE network in an 8-pound backpack

# Product Announcement Videos (continued)



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**General Dynamics:** Mark Raczynski showcases FirstRunner deployable LTE system



**Hytera:** Steve Cragg outlines benefits of new full-duplex DMR communications



**Harris:** Don Griffis highlights features of SCBA integration with XL-200 P25/LTE device



**Motorola Solutions:** Bryon Wheaton demonstrates video capabilities from new Avigilon unit



**Pyramid:** Michael Foley explains how vehicular repeater enhances coverage for EF Johnson P25 portables



**Motorola Solutions:** Aaron Bravo highlights functionality within CommandCentral Aware platform



**NICE:** Patrick Botz highlights new features within company's Inform 9 platform



**Motorola Solutions:** Devin Barreto showcases new APX 8000 P25 radios designed for hazardous locations



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# FirstNet to begin agency-level engagement program with public safety

Donny Jackson | *Urgent Communications*, August 8, 2018

LAS VEGAS—FirstNet is launching a new engagement program that calls for the organization's officials to meet with public-safety agencies throughout the United States to help them "optimize FirstNet inside their agencies," according to Dave Buchanan, director of the First Responder Network Authority's advocacy team.

Conducting outreach is not new to the FirstNet authority, but this engagement program will be different from the state-leadership-focused efforts that the organization executed prior to the governors of all 50 states and 6 territories making "opt-in" decisions last year.

"We're going through what we're calling this big pivot—we're pivoting from 56 to 60,000," Buchanan said during a session yesterday at APCO2018. "Our focus area is changing from the work we did from 2013 to 2017—where we worked with SPOCs, state bodies and states on consultation, building an RFP, making an award, and working on the state-plan process—now toward moving to an engagement program with the 60,000 public-safety agencies that we're responsible to work with out in the field."

When meeting with public-safety agencies, FirstNet subject-matter experts will conduct workshops that are designed to help educate agency officials about the network platform, as well as gather input from the agencies about their communications needs, Buchanan said.

"What I've challenged the team to do is really look for a way to bring about a program that's repeatable, efficient and brings about quantitative and qualitative elements back to FirstNet as we do these individual engagements—have a series of these events and do a deep dive, helping agencies figure out how to optimize FirstNet inside of their agencies," he said.

Buchanan said that workshop topics will explore the agency's operations and technology, helping agency officials develop use cases for leveraging FirstNet system functionality, as well as a more detailed technical understanding needed for implementing these capabilities.

Another type of workshop will examine potential future product and services, with help from FirstNet's laboratories in Boulder, Colo., Buchanan said.

"We would bring our product roadmap with AT&T to public safety and allow them to test, try out and give us feedback on the different products on the product roadmap," Buchanan said. "We think this will be something that will be critically valuable as we go forward. We know that this will be something that first responders will be excited to participate in."



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"It gives us a chance to bring that products that are on the AT&T product roadmap to public safety, so we can get their feedback and get their input during that roadmap process, so we can ensure that we're bringing the very best, appropriate and useful products to market—before they come to market, not after."

FirstNet also plans to conduct "after-action review engagements" with agency officials after the agency has utilized the FirstNet system, Buchanan said.

"This gives us an opportunity to sit down with public-safety agencies, emergency managers and others who are involved in critical incidents ... to understand their use of FirstNet during that response," Buchanan said, noting that the information from these efforts will be used by FirstNet and AT&T to "improve the way that FirstNet performs in those times of need."

FirstNet plans to begin this new outreach effort with engagements scheduled in Richmond, Va., Guam and Minnesota, Buchanan said.

In an additional outreach effort, Buchanan said he has started hosting a FirstNet podcast called "Public Safety First" that can be accessed for free through Apple iTunes.

*"We would bring our product roadmap with AT&T to public safety and allow them to test, try out and give us feedback on the different products on the product roadmap," Buchanan said. "We think this will be something that will be critically valuable as we go forward. We know that this will be something that first responders will be excited to participate in."*

*Dave Buchanan, director of the First Responder Network Authority's advocacy team*

# Verizon calls for greater interoperability with FirstNet, says public-sector business still growing

Donny Jackson | *Urgent Communications*, August 17, 2018

Verizon continues to seek AT&T and FirstNet agreement on higher levels of interoperability to support first-responder communications, although no such discussion have occurred to date, according to Verizon officials.

Contrary to some industry speculation, basic interoperability exists between Verizon and the FirstNet system being deployed by AT&T, in terms of the ability to transmit public-safety traffic back and forth, Nick Nilan, Verizon's director of public-sector strategy. However, Verizon wants more comprehensive interoperability between the networks, particularly in the areas of application interoperability, mutual recognition of priority-and-preemption services and the ability to support mission-critical-push-to-talk (MCPTT) communications between the networks, he said.

"Our message is clear: there is interoperability between Verizon customers and AT&T customers, and Verizon customers and FirstNet customers, today for voice, text, video and e-mail—all of the standard data applications that are in use by consumers, public safety can use those, too," Nilan said during an interview with *IWCE's Urgent Communications*. "We want to make sure that there's not confusion in the market that you won't be able to call a first responder on another network.

"What we're asking for from AT&T and FirstNet—and we continue to ask them to come to the table, to at least have these conversations—are real-time data sharing across applications. No public-safety agency should have to choose a network based on where an application sits or what applications they'll have access to."

Mike Maiorana, Verizon's senior vice president for the public sector, echoed this sentiment during



a presentation he made during the APCO 2018 show conducted last week in Las Vegas.

"Since the AT&T is a commercial network run on 3GPP standards and our network is a commercial network run on 3GPP standards, we believe there is a pathway to true interoperability to enable Verizon customers to effectively communicate to AT&T customers," Maiorana said during the presentation.

Maiorana highlighted the importance of the priority and preemption status of users from the other network, "so an AT&T with a certain level of priority is recognized by the Verizon network with that same level of priority, and vice-versa.

"We believe that this is the future. We're advocating for interoperability. We're not advocating for a piece of the FirstNet contract. We're not advocating to earn a spot there. We're advocating to maintain our business in the public-safety space to deliver the best network with the best technology and the best applications and allow our customers to decide which network in their local market would serve them best."

Both Maiorana and Nilan acknowledged that no such interoperability discussions between Verizon, AT&T and FirstNet have occurred thus far.

Verizon traditionally has been the market leader in providing wireless broadband services to public-safety agencies, garnering about 70% of the market, according to some estimates. Despite the presence of FirstNet in the marketplace, Verizon's \$4.6-billion public-sector business continues to grow, Maiorana said.

"We don't report on numbers at the segment level, but the amount of new business that we have secured in the past year exponentially outweighs the number of customers that have switched to AT&T ... in the public-sector segment overall," Maiorana said during an interview with *IWCE's Urgent Communications* conducted during the APCO 2018 show.

One of Verizon's key advantages in the public-safety space is the carrier's 450,000-square-mile broadband coverage edge, Maiorana said.

"We're meeting with states that

# Verizon calls for greater interoperability with FirstNet, says public-sector business still growing (continued)

just finished meeting with AT&T and FirstNet, and they think it's a great concept," he said. "But Verizon has 125% more LTE coverage in that state. They'll never catch up."

Given these circumstances, Maiorana said he believe public-safety officials will ask AT&T and FirstNet to support full interoperability between the Verizon public-safety offering—one that is designed to mirror the FirstNet feature set—and FirstNet.

"I'm optimistic that [Verizon-FirstNet interoperability] will happen eventually," Maiorana said during the interview with *IWCE's Urgent Communications*. "It will be a bottom-up approach where the customer has a loud voice to do this. I'm optimistic that, top down, people will start to realize that it's the right thing to do. It's probably too early for the other guys to wave the white flag and say, 'Sure, Verizon, come and join our contract.' I'm not sure what motivation they have right now to do that.

"But we're not going anywhere. We're going to continue to invest. We're going to continue to deliver great service. We're going to win in the market. If Michael Poth, NTIA, the Department of Commerce, the FCC, the U.S. Congress or whoever really understands how this can be engineered and managed, it may be a significant boost for enabling the promise of FirstNet quicker."

Maiorana credited FirstNet with increasing awareness about first responders' need for reliable broadband communications, noting that the focus is proving beneficial to first responders.

"FirstNet has really elevated the attention on this segment," Maiorana said. "Small, medium and large, new entrants and established companies are running toward it. I give [FirstNet CEO] Michael Poth and TJ [Kennedy, former FirstNet president] a lot of credit for getting to this point and for casting this broad light on such

a critical segment. It's only going to help, [public safety benefiting from] all of this innovation coming from industry.

"I think that FirstNet is a tide that's raising all boats with additional focus to serve this segment. Over time, that will benefit the first responder significantly. I'm not sure that AT&T is happy we're doing all of this, but I know our customers are happy we're doing all of this, and that's our concern."

Nilan outlined several technical aspects of Verizon's public-safety offering, including reasoning behind the company's decision to deploy a virtual public-safety LTE core, as opposed to the physically separate FirstNet LTE core.

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